B.P.T. [1st Prof.]

BF/2009/07

Biochemistry

M.M. : 90 **Time : 3 Hours**

SECTION - A

All questions are compulsory. Answer to each question upto 5 lines in length. Each question carries 2 Marks. [20]

1. Write the components of two important blood buffers.
2. Enumerate the functions of Cholesterol in the human body.
3. List the important blood lipids.
4. Define Basal Metabolic Rate.
5. Write the names of 4 unsaturated fatty acids indicating their chain length and position of unsaturation.
6. List the Mucopolysaccharides found in Connective tissue.
7. Name the Antioxidant vitamins.
8. List the enzymes which are found to be elevated in blood after the Myocardial infarction.
9. Write 4 differences between DNA and RNA.
10. List four inborn errors of Protein metabolism.

SECTION – B

Attempt any 8 questions. Answer to each question upto 2 pages in length. Each questions carries 5 Marks. [40]

1. What are Polysaccharides? Classify them and list the differences between Starch and Glycogen.
2. What is a Codon? Describe the salient features of the genetic code.
3. Classify enzymes giving at least two examples of each class.
4. Describe the biochemical function of Vitamin C and explain how deficiency of this vitamin leads to the symptoms exhibited in the disease Scurvy.
5. What are Isotopes? How can they be used to diagnose diseases.
6. Write a note on energy rich compounds.
7. Describe the structure of Collagen.
8. How are Thyroid hormones synthesized and secreted?
9. "Gluconeogenesis is not merely a reversal of Glycolysis". Justify this statement giving reasons, why?
10. Describe the Chemiosmotic hypothesis of oxidative phosphorylation.
11. Describe the reactions of the Urea cycle.
12. Create ideal diets for a chronically ill and for a terminally ill patient.

SECTION – C

Attempt any 2 questions. Answer to each question upto 5 pages in length. Each questions carries 15 Marks. [30]

1. What is the normal fasting blood glucose level? Which are the hormones which influence blood glucose levels and how do they act. Discuss the changes in metabolism in Diabetes Mellitus.
2. Describe in detail the chemistry and metabolism of bone. Add a note on role of Parathyroid hormone and Vitamin D in bone metabolism.
3. What are Lipoproteins? List their types and their functions. Which one of these Lipoproteins is implicated in the causation of atherosclerosis. Explain how this Lipoprotein may cause atherosclerosis.
4. Write a detailed note on the mode of action of enzymes and the various factors affecting enzyme action.
